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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,137

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Jussi Nurmi

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7590

03/24/2010

JAMES C. LYDON

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ALEXANDRIA, VA 22314

EXAMINER

MUMMERT, STEPHANIE KANE

ART UNIT

PAPER NUMBER

1637

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,137	Applicant(s) NURMI ET AL.	
	Examiner STEPHANIE K. MUMMERT	Art Unit 1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 3, 2009 has been entered.

Applicant's amendment filed on December 3, 2009 is acknowledged and has been entered. Claims 1-17 have been canceled. Claims 18-30 have been added. Claims 18-30 are pending.

Claims 18-30 are discussed in this Office action.

All of the amendments and arguments have been thoroughly reviewed and considered but are not found persuasive for the reasons discussed below. Any rejection not reiterated in this action has been withdrawn as being obviated by the amendment of the claims. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This action is made NON-FINAL to address the new grounds of rejection.

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New Grounds of Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Daridon et al. (US PgPub 2004/0229349; 102(e) date, April 1, 2002). Daridon teaches a filtration and sorting apparatus useful for detection of cellular materials (Abstract).

With regard to claim 18, Daridon teaches an assay for quantitative and/or qualitative analysis of the presence of a specific analyte or specific analytes in a biological sample, which analytes, if present, are contained in biological particles of said sample, said assay comprising forcing said sample in a first direction through a filter that retains said biological particles (Fig 17 and 18, p. 30, paragraph 443-449, 622 is the filter and is designed to pass fluid readily, but will retain particles and may be size selective, see [446] and [449], where particle 620 is retained), removing biological particles from said filter by a flush flow in a second direction opposite said first direction, and analyzing biological particles contained in said flush flow (p. 30, [449] where particle is displaced by fluid flowing in reverse across filter channel and repositioned to analysis site 632), and analyzing biological particles contained in said flush flow

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by means of a nucleic acid amplification assay (paragraph 246, 288, 307, where the retained particle or cell can be analyzed by PCR amplification).

With regard to claim 19, Daridon teaches an embodiment of claim 1, further comprising performing an initial filtration which does not retain the biological particles containing the analyte or analytes but retains particles that might interfere with the analysis of the analyte or analytes, said initial filtration being performed prior to forcing said sample in a first direction through a filter which retains said biological particles (Embodiment 4, [538] where the system flushes fluid through the chamber to prevent clogging of the filter).

With regard to claim 20, Daridon teaches an embodiment of claim 1, wherein said flush flow is analysed for the analyte or analytes without any further purification (p. 30, [449] where the repositioned particle is moved to an analysis site without further purification).

With regard to claim 21, Daridon teaches an embodiment of claim 1, wherein retention of the biological particles containing the analyte or analytes in the filter is dependent on the size of the particles (p. 30, [446] where “in some embodiments, the diameter of filter channel 616 allows size-selective retention of a single particle”).

With regard to claim 22, Daridon teaches an embodiment of claim 1 wherein retention of the biological particles containing the analyte or analytes in the filter is essentially dependent on the chemical properties of the particle (p. 14 [253] where the particle is retained based on a chemical interaction).

With regard to claim 23, Daridon teaches an embodiment of claim 18, wherein the biological particles containing the analyte or analytes are selected from the group consisting of prokaryotic or eukaryotic cells or spores or components thereof, viruses or viral particles,

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complexes comprising protein and/or nucleic acid, and any combination thereof (p. 7-8, [149-164], where the particles or analytes include biological cells including eukaryotic and prokaryotic cells and viruses).

With regard to claim 24, Daridon teaches an embodiment of claim 6, wherein the biological particles containing the analyte or analytes are selected from the group consisting of bacteria, bacterial cell, plant pollen, mitochondria, chloroplast, cell nuclei, virus, phage, chromosome and ribosome (p. 7-8, [149-164], where the particles or analytes include biological cells including eukaryotic and prokaryotic cells and viruses).

With regard to claim 25, Daridon teaches an embodiment of claim 1, wherein the means of analysing the analyte or analytes is selected from the group consisting of polymerase chain reaction (PCR), reverse transcriptase polymerase chain reaction (RT-PCR), ligase chain reaction (LCR), proximity ligation assay, nucleic acid sequence based amplification (NASBA), strand displacement amplification (SDA) and any combination thereof (p. 14, [246], where the types of analysis include PCR).

With regard to claim 26, Davidon teaches an embodiment of claim 1, wherein said flush flow comprises a liquid or gas not contained in said sample (p. 9, [177] where positioning or facilitation mechanisms can include external liquid or gas pressure).

With regard to claim 27, Daridon teaches an embodiment of claim 1 wherein the analyte or analytes are selected from the group consisting of a living and/or dead cell or virus; a peptide, a protein or complex thereof; a nucleic acid; and any combination thereof (p. 7-8, [149-164], where the particles or analytes include biological cells including eukaryotic and prokaryotic cells and viruses).

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With regard to claim 28, Daridon teaches an embodiment of claim 10, wherein the analyte or analytes comprises living and/or dead cells and/or viruses selected from the group consisting of a mold, a yeast, a eukaryotic cell or organism, a pathogenic virus and a cancer cell (p. 7-8, [149-164], where the particles or analytes include biological cells including eukaryotic and prokaryotic cells and viruses).

With regard to claim 29, Daridon teaches an embodiment of claim 10, wherein the analyte or analytes comprises nucleic acids selected from the group consisting of DNA, RNA and any derivative thereof (p. 12-13, [223] where the nucleic acids can include DNA or RNA).

With regard to claim 30, Daridon teaches an embodiment of claim 10, wherein the analyte or analytes comprises peptides and/or proteins or complexes thereof selected from the group consisting of a hormone, a growth factor, an enzyme or parts thereof and/or complexes thereof; and any combination thereof (p. 14, [248] where the characteristic detected in the analyte includes nucleic acids, proteins, enzymes and a variety of additional factors).

Response to Arguments

Applicant's arguments with respect to claims 18-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

All claims stand rejected, no claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE K. MUMMERT whose telephone number is (571)272-8503. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephanie K. Mummert/
Examiner, Art Unit 1637

SKM